

CLAIMS

What is claimed is:

1. A controller comprising at least one Home Audio Visual Initiative (HAVi) server that communicates with at least one HAVi compliant device using a HAVi application programming interface (API) and at least one proxy on at least one Internet Protocol (IP) device using an IP and HAVi API, the server communicating with the IP device via an IP protocol, the server comprising at least one IP device device control module (IP device DCM) corresponding to the IP device, the IP device providing API support to translate and relay calls between the proxy and the server so that at least one HAVi compliant device can communicate with the IP device.
2. The controller as set forth in claim 1, wherein the proxy and IP and HAVi APIs communicate with the server to enable the IP device to control at least one device selected from the group consisting of IP devices and HAVi compliant devices.
3. The controller as set forth in claim 1, wherein a HAVi compliant device can control at least one device selected from the group consisting of an IP device and at least one HAVi compliant device, the HAVi compliant device controlling the device by accessing a DCM associated with that device.
4. The controller as set forth in claim 1, wherein the HAVi compliant device is physically located on the controller.
5. The controller as set forth in claim 1, further comprising a HAVi stack that enables IP device DCMs to be instantiated independently of bus reset events.

6. The controller as set forth in claim 1, wherein the server communicates with IP devices across a first communication medium and HAVi compliant devices across a second communication medium.

7. The controller as set forth in claim 6, wherein the first communication medium is selected from the group consisting of fiber, optical, cable, wire and wireless networks.

8. The controller as set forth in claim 5, wherein the second communication medium is an IEEE 1394 network.

9. The controller as set forth in claim 1, further comprising a stream bridge configured to capture content from a first device of IP and HAVi compliant devices coupled to the controller and relay it to a second device of IP and HAVi compliant devices.

10. The controller as set forth in claim 1, wherein the controller is selected from the group consisting of HAVi full audio/visual (FAV) device and intermediate audio/visual (IAV) device.

11. A controller comprising at least one server that communicates with at least one first network compliant device using a first network application programming interface (API) and a first protocol, and the server communicating with a proxy on at least one second network compliant device using a first and second network API, the server communicating with the second network compliant device via a second protocol, the server including at least

one second network compliant device control module (DCM) corresponding to the second network compliant device, the second network compliant device providing API support to translate and relay calls between the proxy and the server so that at least one first network compliant device can communicate with the second network compliant device.

12. The controller as set forth in claim 11 wherein the first network compliant device is a Home Audio Visual Initiative (HAVi) network compliant device.

13. The controller as set forth in claim 12 wherein the second network compliant device is an Internet Protocol (IP) device.

14. The controller as set forth in claim 13 wherein the second protocol is IP.

15. An Internet Protocol (IP) Device comprising:

a proxy to communicate with a Home Audio Visual Initiative (HAVi) server on a controller using an IP protocol; and

at least one IP and HAVi application programming interface (API) configured to translate and relay communications between the IP device and the server that are communicated with the server using the IP protocol, the server configured to manage the proxy so that communications may occur with the IP device, wherein the IP device can communicate with a HAVi compliant device.

16. The IP device as set forth in claim 15, wherein the IP device can control a device selected from the group consisting of HAVi compliant devices and IP devices coupled to a HAVi network by accessing a DCM corresponding to that device.

17. The IP device as set forth in claim 15, wherein a HAVi compliant device can control at least one device selected from the group consisting of an IP device and at least one HAVi compliant device by accessing a DCM corresponding to that device.

18. The IP device as set forth in claim 15, wherein the API comprises a library of functions.

19. The IP device as set forth in claim 15, further comprising streaming content through the input/output coupling.

20. A second network compliant device integrated into a first network comprising:

a number of first network compliant devices coupled to the first network via a first protocol;

a proxy on the second network compliant device to communicate with a first network server on one first network compliant device acting as a controller, the proxy and first network server communicating using a second protocol; and

at least one first and second network application programming interface (API) configured to translate and relay communications between the second network compliant device and the first network server that are communicated with the server using a second

protocol, the server configured to manage the proxy so that communications may occur with the second network compliant device, wherein the second network compliant device can communicate with at least one first network compliant device.

21. The second network compliant device as set forth in claim 20 wherein the first network is a Home Audio Visual Initiative (HAVi) network.

22. The second network compliant device as set forth in claim 21 wherein the first network compliant device is a HAVi network compliant device.

23. The second network compliant device as set forth in claim 22 wherein the second network compliant device is an Internet Protocol (IP) device.

24. The second network compliant device as set forth in claim 23 wherein the second protocol is IP.

25. A method of integrating an Internet Protocol (IP) device into a Home Audio Visual Initiative (HAVi) network comprising:

coupling at least one IP device to a first HAVi compliant device acting as a controller, the IP device coupled to the first HAVi compliant device through a connection using an IP, the IP device including a proxy that communicates with a server on the controller;

instantiating an IP device device control module (IP device DCM) on the controller corresponding to the IP device;

accessing an IP and HAVi application programming interface (API) and proxy on the IP device to translate and relay information to a server on the first HAVi compliant device; and

having a second HAVi compliant device communicate with the IP device using the IP DCM.

26. The method as set forth in claim 25, wherein the IP device DCM is instantiated independently of bus reset events.

27. The method as set forth in claim 25, wherein the second HAVi compliant device is selected from the group consisting of the first HAVi compliant device and a device coupled to the first HAVi compliant device through a network.

28. The method as set forth in claim 25, further comprising the step of streaming data between the IP device and the controller.

29. A method of integrating a second network compliant device into a first network comprising:

coupling at least one second network compliant device to a first network compliant device acting as a controller, the second network compliant device coupled to the first network compliant device through a connection using a second network protocol, the second network compliant device including a proxy that communicates with a server on the

instantiating a second network compliant device device control module (DCM) on the controller corresponding to the second network compliant device;

accessing a first and second network application programming interface (API) and proxy on the second network compliant device to translate and relay information to the server on the first network compliant device; and

having another first network compliant device communicate with the second network compliant device using the second network compliant device DCM.

30. The method as set forth in claim 29 wherein the first network compliant device is a HAVi network compliant device.

31. The method as set forth in claim 30 wherein the second network compliant device is an Internet Protocol (IP) device.

32. The method as set forth in claim 31 wherein the second network protocol is IP.

33. A system for integrating an Internet Protocol (IP) device into a Home Audio Visual Initiative (HAVi) network comprising:

means for coupling at least one IP device to a first HAVi compliant device acting as a controller, the IP device coupled to the first HAVi compliant device through a connection using an IP, the IP device including a proxy that communicates with a server on the controller;

means for instantiating an IP device device control module (IP device DCM) on the controller corresponding to the IP device;

means for accessing an IP and HAVi application programming interface (API) on the IP device to translate and relay information to the first HAVi compliant device;

means for having a second HAVi compliant device communicate with the IP device.

34. The system as set forth in claim 33, wherein the proxy and IP and HAVi APIs enable the IP device to control at least one device selected from the group consisting of IP devices and HAVi compliant devices.

35. The system as set forth in claim 33, wherein at least one HAVi compliant device controls at least one device selected from the group consisting of an IP device and at least one HAVi compliant device, the HAVi compliant device controlling the device by accessing a DCM corresponding to that device.

36. The system as set forth in claim 33, wherein the IP device DCM is instantiated independently of bus reset events.

37. The method as set forth in claim 33, further comprising means for streaming data between the IP device and the controller.